

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
27 December 2002 (27.12.2002)

PCT

(10) International Publication Number  
**WO 02/102539 A3**

(51) International Patent Classification<sup>7</sup>: **B23K 1/00**

(21) International Application Number: PCT/US01/44176

(22) International Filing Date:  
27 November 2001 (27.11.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
09/726,236 29 November 2000 (29.11.2000) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:  
US 09/726,236 (CON)  
Filed on 29 November 2000 (29.11.2000)

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

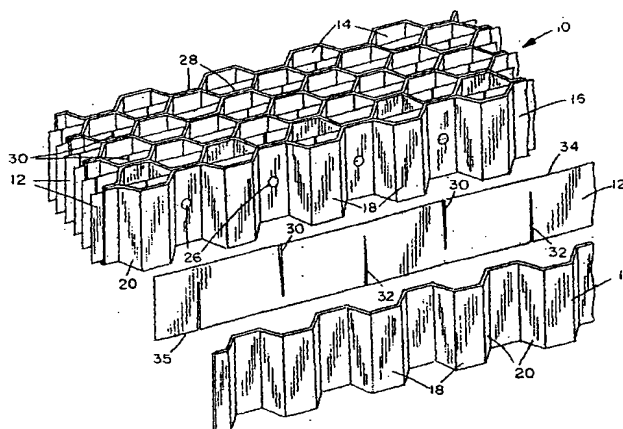
Published:

— with international search report

(88) Date of publication of the international search report:  
12 June 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HONEYCOMB CELL STRUCTURE AND METHOD OF MANUFACTURE



(57) Abstract: A honeycomb cell structure (10) has a plurality of first strips (16) each formed into a generally zig-zag configuration and placed side by side to form a plurality of rows of cells in a generally honeycomb configuration with nodes (28) between adjacent cells in each row, and a plurality of second strips of brazing foil (12). Each second strip is positioned between a respective pair of adjacent first strips and the first and second strips are secured together at each node such that a brazing foil strip extends across each cell in each row of the honeycomb. The second strips have a series of spaced slits (30) extending transversely from at least one side edge across at least a distance equal to greater than half of the width of the second strip, with at least some of the slits being located within the cells.

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## INTERNATIONAL SEARCH REPORT

Int'l Application No  
PCT/US 01/44176A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B23K1/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B23K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 117 298 A (ALLOY SPOT WELDERS INC) 12 October 1983 (1983-10-12) page 2, line 77 - line 88; figure 4	1-4,6-10
A	EP 0 437 626 A (SHOWA AIRCRAFT IND) 24 July 1991 (1991-07-24) abstract	1-12
A	US 4 491 265 A (ITTNER GARY N ET AL) 1 January 1985 (1985-01-01) cited in the application abstract	1-12



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Date of the actual completion of the international search

7 November 2002

Date of mailing of the international search report

26/11/2002

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/44176

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
GB 2117298	A	12-10-1983	DE	3218473 A1	17-11-1983
			FR	2526694 A1	18-11-1983
EP 0437626	A	24-07-1991	JP	3278815 A	10-12-1991
			JP	2627668 B2	09-07-1997
			JP	3065244 A	20-03-1991
			JP	3086370 A	11-04-1991
			DE	69015605 D1	09-02-1995
			DE	69015605 T2	06-07-1995
			EP	0437626 A1	24-07-1991
			US	5316997 A	31-05-1994
US 4491265	A	01-01-1985	WO	9101876 A1	21-02-1991
			FR	2546788 A1	07-12-1984
			GB	2141064 A	12-12-1984
			SE	8304431 A	07-12-1984

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